MASSAGE IN NERVOUS DISEASES.

By Dr. GEORGE W. JACOBY,

PHYSICIAN TO THE CLASS OF NERVOUS DISEASES OF THE GERMAN DISPENSARY OF THE CITY OF NEW YORK.

III.

(*Continued from page* 159.)

Migraine.

WITH all our present knowledge, and after all the classic writings of Broussais, Eulenburg, DuBois, Reymond, and Romberg as to the causation of migraine, we are still bewildered when it is required of us to assign a certain unvariable etiology to this affection. I do not believe this to be possible, and am sure that migraines in various persons are due to various causes. That there are various types of migraine is acknowledged, but that this affection may be of purely local origin is not so well known. Grasset, in 1879, went so far as to say: "Migraine is always the manifestation of a general condition, of a constitutional state" (*état*). Were this statement correct and the fact such as Grasset has so dogmatically put it, the field for massage in the modification of this affection would be a very limited one.

Certainly a migraine dependent upon a general neurasthenic condition may be relieved by modifying the general status, and that massage of the entire body is valuable in accomplishing this end is now well known, but it would be a manifest error of judgment to deduce from this that general massage is serviceable in migraine. It is the neurasthenia which is favorably influenced by it, and with an im-

provement in the general neurasthenic condition, symptoms dependent upon this will necessarily subside.

So of this, and of allied cases, I have nothing to say here, but there are two classes of cases, one of which I am inclined to believe occurs very frequently, which are in the majority of instances relieved, and in very many cured, by massage.

These are: 1st, Migraine dependent upon reflex hyperæmia, or vasomotor increase of the carotid blood-supply of the brain, which are relieved by neck-massage, or the use of the percuteur; and

2d, Migraine dependent upon peripheral irritation of one or more branches of the trigeminus.

It is this latter class which is much more frequent than is supposed. In cases occurring in anæmic neurasthenic patients, I have never seen any results from local massage, notwithstanding Reibway's assertion to the contrary. Of the first class of cases, the following two, taken from my case-book, are interesting:

CASE I.—Female, æt. twenty-seven; married; no children; menstruates regularly. At age of fourteen had an attack of migraine, occupying principally the left side of the head, but the right side was not entirely free. This attack was attended with nausea and vomiting and great aversion to light. It lasted all day, till she went to bed at night, when she fell asleep, and woke up the next day free from pain. These attacks repeated themselves at irregular intervals during this entire time, and were always attended by the same symptoms, including flushing of the face and a feeling of throbbing in the neck. Stooping increased the pain materially. She had submitted to various modes of treatment, but in vain. For the last year she had had attacks from three to four times monthly.

Nov., 1883, she first came under my treatment. After several months of the useless employment of galvanism, I determined to attempt to cut short the next attack by the use of neck-massage. The attacks generally came on soon after getting up in the morning, and she was then obliged to spend the entire day upon the sofa. They only left her after a good night's sleep.

The next attack she had, I massaged the neck according to Gerst, for about fifteen minutes, when she said she felt much better. The pain had ceased almost entirely. She was free from pain the rest of the day. She remained under treatment until Sept., 1884, during which time I saw her only when she had an attack. The result was the same each time—almost complete relief after a comparatively short séance. The attacks however did not decrease in frequency. She then moved out of town, and I instructed her husband how to apply the massage. In a letter received in response to an inquiry of mine, dated Dec. 11, '85, she says: "I am always able to put an end to my sick-headaches by the use of the massage, and am, I think, sometimes able to prevent an attack. My husband and myself are sure that they do not occur as often now as before. Of all things that I have made use of this is the only one that has helped me in the least." So in this case where the result was only palliative, we have all reason to be satisfied with the effect.

In the following case it was the use of the percuteur and of Klemm's muscle-beater which relieved the attacks and also increased the interval between them. A cure, however, was not accomplished.

CASE 2.—J. P., male, æt sixty, an actor, has had attacks of hyperæmic (angio-paralytic) migraine ever since he was a young man. The attacks occurred at irregular intervals, but at least twice a month. He was never incapacitated from acting on account of them, but this was only due to his force of will, for during the day he did not attend to any work and spent most of his time on the lounge. When he came under my treatment, I first used massage of the neck but without any appreciable result. Then I made use of Granville's percuteur. The flat disc end was used, and the percuteur applied to the base of the mastoid process and moved forward over the temporal ridge to the forehead. Then very lightly over the scalp, moving it from before backwards, and *vice versa* in parallel lines. He was instructed to inform me as soon as he felt relief, which generally occurred in from three to five minutes. The pain frequently returned in a very short time and the percuteur

was again applied. I was invariably, from the first time on, able to relieve the attack by this means, and this for a man in his profession was invaluable. During the interval he himself made use of Klemm's muscle-beater (size 3 c.) in the manner directed by me, and he avers that the attacks became more infrequent. Of many cases of this class treated by this means I have no record of any absolute cure.

For the employment of this beater in migraine, Klemm gives the following directions: If the head is very sensitive, the beating is to be commenced very lightly and to be applied at first for about two to three minutes, later from four to six minutes. The entire application is to be divided into two periods, in such a manner that the patient beats during two to three minutes, then a pause, and then finishes in from two to three minutes more. The pause must always last until the peculiar feeling which is caused by the tapôtement has disappeared. Cases of cure of migraine by tapôtement have been reported by Laisné who uses a form called "Massage par pulpation" because he makes use of the points or pulps of his fingers. The manœuvre is very difficult of execution, and requires very great dexterity on the part of the operator. Faye has reported two cases of cure by this method. I personally have never been able to attain sufficient dexterity to employ it with satisfaction, but a description of it may be of interest.

Weiss says the procedure may be compared to the quickest tempo-pianissimo, which a pianist executes; with the exception, however, that a pianist uses the points of his fingers, whereas the masseur uses the pulps of the last phalanges. He describes the method in dealing with a migraine situated upon the one temple and spreading over the entire forehead, part of which I reproduce: "After the patient has been placed in a chair, in as comfortable a position as possible, the operator places his fingers, slightly spread upon the forehead, and now begins to beat in a quick tempo, as if he were beating a drum-reveille (Laisné), passing gradually downwards until he reaches the right ear. From this point on the beating must be discontinued, but the fingers must glide down until they have

reached the lower part of the neck, gently stroking. This is only part of the description, but is sufficient to show that the method is a combination of very rapid tapôtement and effleurage of the neck. It will certainly be found easier in practice to make use of the percuteur in conjunction with effleurage of the neck, than to attempt to execute the exceedingly wearisome and difficult massage par pulpation.

The second class of cases of migraine which are particularly amenable to massage, and which in my opinion occur much more frequently than is generally supposed, are those cases which are dependent upon some peripheral irritation of branches of the trigeminus or perhaps of the sympathetic.

In order to clearly understand the mechanism of these cases it will be necessary to take a brief glance at the anatomical distribution of these nerves.

The trigeminus branches which supply the dura mater are derived from the first branch the n. recurrens, a thin branch derived from the ophthalmic, and which spreads out between the lamellæ of the tentorium. According to Arnold this recurrent is formed from one or several delicate branches which, turning backwards, are joined by a small filament from the carotid plexus. It takes its course for a small distance in the sheath of the n. trochlearis, without, however, forming any anastomosis with it, and after leaving it, divides into several very thin filaments, which are distributed to the tentorium, to the sinus tentorii, petrosus and transversus, and terminates in their walls.

From the second branch there is also a nervus recurrens, from the supramaxillary branch to the dura mater. This branch, according to Arnold, arises by means of one or two very thin roots from the second or from the angle between the second and third branches of the trigeminal, and proceeds to the body or the anterior branch of the middle meningeal artery, and joins with the recurrent branch of the inframaxillary. From the third branch of the trigeminus there is also a recurrent nerve, arising in the foramen ovale, or immediately below it, and turning back to the interior of the cranium. This branch, which is known as the n. re-

currens inframaxillary, follows the middle meningeal artery, dividing with it into an anterior and posterior branch.

From the superior cervical ganglion of the sympathetic arise two groups of nerves which supply the heart, and which form connection with the various cerebral nerves, either directly or indirectly; the one group going upward with the internal carotid artery, and the other with the external. It is probable that the chief nerve supply of the pia mater is from this source. From these anatomical facts we can easily understand how an irritant affecting the peripheral branches of the trigeminal or the cervical sympathetic may produce a migraine of the affected side. In the first case, by direct propagation along the recurrent nerves of the trigeminus to the dura mater, and in the second case by producing a change in the calibre of the blood-vessels of the dura or pia, and thus a change in the circulation; or perhaps in both cases the pain is caused by this vasomotor change.

Certain it is that the pain in migraine must lie in the covering of the brain, and we see from this brief anatomical survey that, theoretically at any rate, the pain can be produced through peripheral irritation; practically we will see that there is a great deal to support this view of the pain production in very many cases.

In a large number of cases of migraine, points which are sensitive to pressure can be found. These points correspond to the course of the trigeminus, to the cervical sympathetic ganglia, or to the insertion or the course of the muscles of the face and neck. In most all cases in which pain upon pressure is thus found, irradiations to the habitually affected parts or frequently attacks of migraine may be produced by the pressure. At or in the vicinity of these points indurations, varying in size and consistency, will often be found. Massage of these local indurations will cause their disappearance, and with it a cure of the migraine. The probability, according to the present scientific data, is that these are inflammatory products (Lender, Mezger, Norström) and not swellings produced as a result of hyperæmia of the nervous filaments after their exit from

the bony canals, as has been affirmed by others. Lender, Henschen, Vretlind, and Norström have all cured cases of inveterate migraine by massage of these painful points. Henschen also calls attention to the fact that a careful search for these points is of importance, and he says: "It is well also to remember that in light cases of migraine, tumefactions so small are present that it is difficult to decide as to their nature." "They are the more sensitive, and the more extended, the longer the migraine has lasted. The tumefactions change in shape and volume, according to the case; generally they are very small and produce elevations of the skin scarcely perceptible to the eye."

To gain an idea of the frequency of these indurations as a cause of migraine, statistics, comprising all cases of migraine, taken indiscriminately, would be necessary. Such statistics do not exist. Norström has published a table of indurations found, together with migraine, but his cases are all selected cases, and serve at most to show the most frequent seat of these indurations.

In 32 cases he found induration at:

The superior insertion of the muscles of the posterior part of the neck—14 times.

Body and inferior insertion of same muscle—19 times.

Muscles of the anterior lateral regions and of the shoulder—9 times.

Coverings of the skull—2 times.

Temples—3 times.

Sympathetic ganglia—2 times.

Norström, as a result of large experience, lays down the following law:

"Numerous migraines result from the presence, in the neighborhood of nerves, of indurations, dependent upon acute or chronic inflammation." In these cases then the massage must be applied directly to the induration wheresoever that may be found, entirely independent of the seat of pain, during the attack of migraine, and the proper place can only be found if a careful examination of the head, face, and neck is made in each and every case.

Norström has reported twenty-nine cases of migraine

with indurations treated by massage. Of these cases twenty-one were cured, seven ameliorated, and one was still under treatment.

The following cases are taken from these of Norström :—

CASE 1.—M. L. thirty-eight years of age. Has had migraine since twelve years. During the first eight years these migraines were of a violent character. Since four years they are not so severe. The attacks have been irregular during the last three years. They are produced principally by damp cold. She has fever attacks during the summer. The pain commences at the right temple and extends rapidly to the forehead, the vertex, and the back and upper part of the neck. The pain is very violent; the patient believes, she says, that her head is splitting; muscular twitchings, nausea, vomiting, and then the end of the attack. During all this time she is very pale, her face covered with a cold sweat. The pulse is increased, the eyelids become heavy, the eyes suffused, and intolerance to light. She is also sensitive to the slightest noise. The attack generally lasts twenty-four hours, sometimes forty-eight, or even seventy-two. In this case it consisted principally of a continuous and severe feeling of heaviness, interrupted by true pains. Black coffee relieves her somewhat. Chloral was of some service at first but is now without effect. Since some time she takes a preparation of morphine. Electricity produced no amelioration. On the right side is found a painful tumefaction of the cranial attachments of the trapezius and splenius. In following the edge of the trapezius from above downward, at the lower part of the cervical portion, a region which is more indurated, is found. Near by, a ganglion is swollen and sensitive to pressure. On the other side there is only slight sensitiveness to pressure, over the mastoid process. Treatment by massage, commenced in September, 1883.

In a month, slight amelioration. The treatment was then interrupted until the end of November. After two months, very marked amelioration; the attacks are less frequent, and limited to the supra-orbital region, and even here the pain is less, than before treatment. This amelioration has persisted.

CASE 2.—Male, æt. thirty-six; has had attacks of headaches since ten years. In 1878 subacute rheumatism of the leg and of the right thigh. Warm baths, douches, gymnastics, without result. Icterus in 1880; from this time on the pains disappear. Besides these rheumatic symptoms, he has a continuous headache, principally on the left side. Paroxysmal attacks once, twice, or three times a week, lasting from two to six hours. Sometimes the attack is so severe that the patient says he does not know how he stands it, and sometimes the attack produces only a feeling of fulness and vertigo. Severe pain, when pressure is exercised over a small space of two centimetres in the left parietal region. In the superior part of the trapezius of the left side several indurations are found, which are more or less resistent, and very sensitive to pressure. This pressure is sufficient to produce an attack. After raising the arm, a well-marked induration of about the size of the pulp of the small finger is easily discovered in the acromial portion of the trapezius, and pressure over this point is also painful. Treatment by massage was commenced in April; complete cure after two months. The indurations, and with them the paroxysms of headache, have entirely disappeared. Testimony to the value of massage in migraine is also given by Dr. Stoddard, of Northampton, in a communication to Dr. Douglas Graham. He says: "In the case of the same patient, a nervous headache, to which she had been long subject, was always much alleviated by the application of massage to the head."

Dr. C. K. Mills, of Philadelphia, said in 1878: "I have frequently seen the headache, of a nervous woman relieved by gentle stroking of the forehead, while energetic frictions or shampooing of the entire head are sometimes more efficacious with men."

Cervico-Occipital Neuralgia.

Personally I have had no experience in the treatment of this affection by means of massage; in fact, a pure cervico-occipital neuralgia is not a very common occurrence. In connection with migraines and particularly with neurasthenic migraine, this neuralgia occurs more frequently than

alone. In such cases general treatment perhaps with massage would be indicated. Those cases which have come under my observation, in which the n. occipitalis major was affected in conjunction with the inferior branch of the trigeminal, a concomitance which is not infrequent, the same treatment as applied to the trigeminus was also used here, and it always seemed to me that the occipital neuralgia was never as obdurate as the trigeminal.

Vretlind relates the case of a man æt. thirty. He had lancinating pains in the right half of the face and neck, shooting upwards into the occipital region, and downwards in the neighborhood of the vertebral column. These pains came and went very qnickly. In examining the nerves and muscles of the affected region, an induration is found upon the superior border of the trapezius, and also a small painful spot behind the mastoid process.

Massage. Amelioration after the fifth séance. Entire cure after ten applications.

Schreiber relates the following:

Mr. S. R., suffering from a trigeminal and occipital neuralgia. The pains in the back of the neck and the posterior part of the head, in the forehead, and on top of the head were so severe that the patient, during months, was unable to read or to write. After the patient had undergone a course of hydropathic treatment, without any result, he came under Schreiber's care. After three weeks of mechanical treatment, the occipital neuralgia disappeared entirely, but the neuralgia of the trigeminus, the pains in the forehead, etc., were not relieved, although they were always temporarily alleviated. The occipital neuralgia remained cured, but the patient went elsewhere for relief of his other pains.

Beuster also treated three cases of occipital neuralgia by massage, with the result of curing them. He considered his cases due to a periosteal enlargement, which pressed directly upon the nerve, and therefore directed his treatment entirely to this point.

Cervico-Brachial Neuralgia.

This class as commonly understood embraces neuralgias of all the nerves which are derived from the brachial plexus

or from the posterior branches of the four lower cervical nerves.

This large dissemination makes their occurrence frequent, and certain ones of them are peculiarly susceptible to the mechanical treatment. The diagnosis occasionally is a question of some difficulty, particularly frequent is the mistake of taking a cervico-brachial neuralgia for a muscular rheumatism. Should such a mistake occur, it would however only increase the chance of success by the massage treatment. If, however, an articular rheumatism or any other affection of the joint itself is the primary cause of the neuralgia, the massage can only act injuriously, except in chronic cases, where the neuralgia subsists after subsidence of the joint trouble, or in neuralgias dependent upon a periarthritis, particularly of the shoulder-joint, as is frequently the case.

Petrissage and tapôtement, together with active and passive movements, will be found of most service in the treatment of these neuralgias. Fresh cases, particularly those dependent upon a rheumatic basis, will be very easily cured by massage, and sometimes in a remarkably short time.

Besides the chronic exudation in and around the shoulder-joint, we must not neglect in these cases to examine carefully for indurations in the muscles. Mezger has called attention to the fact that certain neuralgias of the arm are caused particularly frequently by indurations in the sterno-cleido-mastoid. Should such indurations be discovered, the treatment is clearly indicated.

Westerland reports tha case of Mrs. A., æt. thirty-four, of robust constitution, not hysterical ; feels a kind of fulness in her arm in January, 1874, which soon changes to a true pain, occupying the shoulder and the right arm.

Frictions with various liniments and electricity, without result. The beginning of July the neuralgia became still more severe, in consequence of violent movements. Massage. The pain, concentrated principally around the shoulder-joint, extended as far as the elbow, following the course of the musculo-cutaneous nerve. No indurations, swelling, or redness. The motions of lifting the arm or carrying it

backward are particularly painful. Petrissage and tapôtement, amelioration after eight séances. Return of pain after six weeks. Twelve more applications. Cure. No return after fifteen months.

Norström reports the case of a Mrs. N.:

Mrs. N. complains, since March, 1877, of a sensation of *fourmillement* in the right arm. This feeling, which is more disagreeable than painful, does not trouble her. Later it increased so as to become extremely irritating. The pain is settled in the axilla, and radiates down the forearm along the course of the ulnar. Faradic currents, Russian baths, frictions with various ointments, did not bring about any result. The pain also radiated to the subscapular region and the neck. This all disappeared for a certain length of time, and she considered herself well, when, in consequence of a violent movement of the arm, the pain returned more severe than before. Sleep was difficult and restless. When Norström saw her for the first time he could find nothing abnormal in the shoulder-joint nor in the muscles of the arm. The movements had their full scope, but that of elevation and the movements backward were very painful. A pressure upon the course of the musculo-cutaneous nerve, a sudden movement of the arm or the shoulder, were sufficient to provoke a paroxysm. The same treatment as heretofore was resorted to, but this time without result. After twelve séances of massage the patient is considerably improved. Commences to use her arm. After thirty séances, radical cure.

Schreiber also relso relates a case of a male, æt. fifty-eight, who had been suffering from a cervico-brachial neuralgia for three years. He was cured after four weeks' daily mechanical treatment, each application not lasting for more than ten to fifteen minutes. S. calls attention to the great pain produced in this case by the mechanical treatment, and advises operators not to desist from thorough application on account of pain at first.

The following case, in my own practice, of radial neuralgia is still under treatment.

Mrs. P., æt. forty-eight, fell upon the ice three years ago,

striking principally upon the left shoulder. A periarthritis was developed which lasted for six months. During this time she complained of pain in various places of the upper part of the arm. Gradually the pain concentrated itself more and more, until it was located principally along the course of the radial nerve. When I saw her in September of this year I found considerable atrophy of the deltoid with its attendant symptoms, very severe pain upon pressure over the radial where it winds around the humerus, and also above the wrist-joint. The pain caused by the pressure radiated downward into the thumb and first and second fingers. The deltoid regained its consistency and power after three months of electrical treatment, combined with active and passive movements. The neuralgia was during this time also treated by means of the constant current, but without any apparent benefit. Early in December the use of massage was begun. The application took place three times a week with more or less regularity, petrissage and tapôtement being chiefly used. Over the upper and lower sensitive points Granville's percuteur was used. The effect was immediate and marked. Already, after the fifth application, the spontaneous pain, which had been exceedingly severe, had very much diminished in intensity, and the attacks of pain were more infrequent. At present she is well as far as spontaneous pain is concerned, but the nerve is still quite sensitive to pressure. I have, however, no doubt but what this also will disappear.

Berghman has also reported a case of cure of ulnar neuralgia.

Miss Sophie L. suffers since four and a half years with violent pains in the right arm. These appeared without any known cause, and soon became so severe that she had no rest night or day. They come on particularly when she wishes to work or when she performs any movement with the arm. The pain commences at the elbow and radiates downward to the ends of the fingers, particularly of the ring and small fingers. Various remedies have been tried, but always without success. Electricity had been used for an entire year. She was finally admitted into a hospital of Stock-

holm as incurable. B. began the treatment in the hospital on the 13th of May, 1873. He then noticed a constant tremor in the fingers of the left hand, particularly in the two last. Pressure upon the ulnar in the sulcus produced severe pain in the above specified territory. Pressure upon the nerve in the rest of its course also produced pain. No swelling was noticeable. Sensibility very much reduced along the ulnar side of the arm. Nothing abnormal in the muscles or joints. Motion not impaired to any greater extent than that due to pain. After eleven séances of massage patient was for the first time free from pain for a day. After the eighteenth application, a second painless day. After she had been free from pain for three weeks the treatment was experimentally interrupted, but in ten days the pain again recurred, although not nearly as severe as before. After four days of treatment the pain again disappeared.

Westerland reports a case of neuralgia of the musculocutaneous nerve, which has lasted for one month, during which time galvanism had been employed, but without effect. Massage. Cure after fifteen applications.

Intercostal Neuralgia.

Neuralgias of the trunks of the intercostal nerves are in my experience not at all susceptible to the mechanical treatment. I have always been able to obtain better results by means of some other remedy. The anatomical situation of the intercostal muscles makes it evident that they cannot be reached by means of any of the ordinary manipulations. Even the use of the percuteur, which I have tried in several cases, seems to fail in effecting any amelioration. Nevertheless, the following cases serve to show that in the hands of others it has occasionally been successful, and may therefore be tried before giving up a case as hopeless.

The pain, however, is generally so intense, as to discourage both patient and operator. When, however, the superficial branches—those which supply the skin of the abdomen and chest are alone affected—then a cure by massage may be almost positively predicted, and the manipulations

required to effect this result are of the simplest. Pressure and kneading of the affected points suffice.

Schreiber relates a case of intercostal neuralgia, which was accompanied by fever and difficulty of respiration, so that the idea of an exudation in the pleural cavity was first entertained. Upon examination a spot of great sensitiveness was found between the 6th and 7th rib in the axillary line. Pressure caused the patient, who was a physician, to cry out with pain. The pains spread from here into the hypogastrium. Massage was at once employed, and, although very painful, the patient was very much relieved by it. The following day the manipulations were repeated, with the result of effecting a complete cure.

Zabludowsky refers to a case of six years' standing in a man sixty years of age. Two séances weekly. The application consisted of intermittent pressure applied to the intercostal region. After one month's treatment the pain remained absent for several weeks. The attacks, which again recurred several times, had, however, become very slight.

Johnson has described a case of neuralgia of the right intercostal nerve between the 5th and 6th ribs, with painful radiations into the corresponding side of the abdomen, consecutive to a herpes zoster. Massage. Cure.

In this connection it is necessary to make a few remarks about muscular rheumatism, particularly rheumatic torticollis and lumbago. Although these affections do not really come under the heading of diseases of the nervous system, still they are so often referred to the specialist for treatment, and real neuralgias are so often diagnosed as "muscular rheumatism," that it may be well to speak of this affection here. Senator justly says that it is impossible to give a correct definition of muscular rheumatism at the present state of our pathological knowledge. The prominent symptom is pain, and whether this is dependent upon a disorder of the circulation, hyperæmia, or upon an exudation of serum—diffuse or circumscribed,—or upon an affection of the intramuscular sensitive nerve-terminations, cannot be determined. In the latter case it

would be a purely neuralgic affection, and although many cases described as muscular rheumatism may be due to other causes, I am inclined to the view that the majority of those unaccompanied by any swelling are really due to the latter cause. The fact that superficially situated muscles are the ones generally affected, would go to support this view. Rheumatic torticollis is really an idiopathic tonic contracture. The diagnosis must in these cases also naturally be a correct one, otherwise massage, as every thing else, will be of no avail. Muscular pains due to some central affection of the nervous system cannot be relieved by massage. There would be no disadvantage in mistaking a neuralgia of any smaller nerve for muscular rheumatism. The treatment would be about the same. Whatever the pathology of this affection, there is no fact which is now better acknowledged than that first supported by Benedict—that rest in muscular rheumatism is erroneous, and that the affected muscles can be relieved in a much shorter time by gymnastics and mechanical manipulations. Whoever has paid any attention at all to the treatment with massage cannot fail to have been surprised by the rapidity with which many cases of lumbago and torticollis may be entirely relieved. I have seen many cases cured after two to three applicatious, and all authors agree that but very few séances are necessary. Some cases require more time than others, but the final result is always an excellent one. Fresh cases are more easily benefited than old ones. As regards the kind of manipulation to be employed, there is not much to be said. Effleurage and massage à friction for superficially situated muscles, and petrissage and tapôtement for those more deeply situated. The hand will be found to be the most serviceable in these cases for executing tapôtement. Klemm's muscle-beater acts too superficially to be of any value. Very many cases of cure have been reported by Strohmeyer, Berghman, Johnson, Faye, Bruberger, Wagner, Douglas Graham, and others, so that the beneficial influence of massage upon muscular rheumatism is now generally acknowledged, and further testimony in this direction would be superfluous.